west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone (304) 926-0475 • FAX: (304) 926-0479

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-3275
Plant ID No.:	051-00218
Applicant:	Mississippi Sand, LLC
Facility Name:	Benwood Facility
Location:	Marshall County
NAICS Code:	212322
Application Type:	Construction
Received Date:	October 13, 2015
Engineer Assigned:	Steven R. Pursley, PE
Fee Amount:	1,000.00
Date Received:	October 14, 2015
Complete Date:	November 12, 2015
Due Date:	February 10, 2016
Applicant Ad Date:	October 14, 2015
Newspaper:	Moundsville Daily Echo
UTM's:	Easting:522.548 Northing: 4,428.881 Zone: 17
Description:	Construction of frac sand transfer and storage facility.

DESCRIPTION OF PROCESS

The Benwood Terminal will consist of a barge unloading dock, storage and handling warehouse, and a customer truck loading operation. Frac sand arrives via barge to the truck loading dock. Frac sand is unloaded via floating crane using an open clamshell bucket to drop the sand into dump trucks. The trucks are covered with a tarp during transport. Loaded trucks travel on an unpaved haul road to an enclosed warehouse.

The dump trucks enter the warehouse building to unload the product. The warehouse is operated with 6 exhaust fans to create a zone of negative pressure. The fans will serve as the emission point where fugitive particulate matter generated within the warehouse are exhausted. Once the product is unloaded from the dump trucks onto the warehouse floor, a front end loader will transfer material to one of three fully enclosed stockpiles. Each stockpile within the warehouse building will contain a different sized sand product, according to API specifications. When the product is ready for transport to the end user, the front end loader will transfer the material from the stockpiles to a hopper. Material will pass onto a belt conveyor. From there, material is transferred to another belt conveyor which moves the material from the inside of the warehouse to the outside for customer truck loading.

The customer loadout process is conducted with a telescopic chute from the conveyor to the tanker truck. Once the customer truck has been filled, the truck is weighed for processing. Upon completion of this process, the tanker trucks depart from the facility by paved haulroad.

SITE INSPECTION

On December 22, 2015 the writer requested that DAQs Northern Panhandle Regional Office (NPRO) perform a site inspection of the proposed facility. In a January 15, 2016, Alfred Carducci of the NPRO found the site to be acceptable. The following picture was attached to the email:

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions from the facility were estimated using DAQs G40 spreadsheet. All controls were properly accounted for per the G40 instructions. Controlled emissions from the facility will be as follows:

	PM		PM_{10}		$PM_{2.5}$	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
Stock Piles	0.04	0.16	0.02	0.08	0.01	0.01
Unpaved Haulroads	2.11	11.75	0.54	3.00	0.05	0.30
Paved Haulroads	2.39	10.24	0.48	2.05	0.12	0.50
Transfer Points	1.26	2.99	0.58	1.39	0.25	0.59
Total	**5.8**	**25.14**	**1.62**	**6.52**	**0.43**	**1.4**

REGULATORY APPLICABILITY

The following state regulations apply to the facility (no federal rules i.e. NSPS, MACT/NESHAPs are applicable):

45CSR13 Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation).

The construction of the Benwood facility has a potential to emit a regulated pollutant in excess of six (6) lbs/hour and ten (10) TPY and, therefore, pursuant to §45-13-2.24, the facility is defined as a "stationary source" under 45CSR13. Pursuant to §45-13-5.1, "[n]o person shall cause, suffer, allow or permit the construction . . . and operation of any stationary source to be commenced without . . . obtaining a permit to construct." Therefore, Mississippi Sand is required to obtain a permit under 45CSR13 for the construction and operation of the well pad.

As required under §45-13-8.3 ("Notice Level A"), Mississippi Sand placed a Class I legal advertisement in a "newspaper of general circulation in the area where the source is . . . located." The ad ran on October 14, 2015 in the *Moundsville Daily Echo* and the affidavit of publication for this legal advertisement was submitted on October 30, 2015.

45CSR17 To Prevent and Control Particulate Matter Air Pollution From Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter.

The main requirement of 45CSR17 is the prohibition of fugitive particulate matter which causes or contributes to statutory air pollution. Mississippi Sand will comply with this requirement by performing nearly all transfer operations inside a fully enclosed building. The only exceptions are the clamshell unloading from the barges to the trucks, which is uncontrolled and the belt conveyor loading the load out trucks which uses a telescopic chute.

Additionally, a water truck will be maintained on site to control emissions from unpaved haul roads.

45CSR22 Air Quality Management Fee Program

The facility is not subject to any NSPS, MACT or NESHAP. Additionally, the facility is defined as a minor source under 45CSR30. Therefore the facility is not subject to 45CSR30 and will pay its annual fees through the Rule 22 program.

Nonapplicability Determinations

45CSR7 To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations

Since this is not a manufacturing source (sand is simply unloaded, stored and shipped) it is not subject to 45CSR7.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The material to be handled is a "frac sand" which contains, among other things, quartz/silica dust. Although crystalline silica is not regulated as a "Hazardous Air Pollutant" under section 112 of the Clean Air Act, it does have the potential to cause serious lung diseases including silicosis and is regulated tightly by OSHA.

AIR QUALITY IMPACT ANALYSIS

Since this application addresses the construction of facility that is not defined as "major" in 45CSR14, no modeling was performed.

MONITORING OF OPERATIONS

The permittee shall maintain the following records:

* Records of monthly EPA Method 22 opacity testing and any corrective actions taken.

* Monthly throughput of sand.

RECOMMENDATION TO DIRECTOR

Information supplied in the application indicates that compliance with all applicable regulations will be achieved. Therefore it is the recommendation of the writer that permit R13-3275 for the construction of a frac sand transfer and storage facility in Benwood, Marshall County, be granted to Mississippi Sand, L.L.C.

Steven R. Pursley, PE
Engineer

2-11-16
February 11, 2016